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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,657	10/14/2005	Bogdan Serban	278869US2PCT	3753

22850 7590 10/21/2008

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EXAMINER	
STONE, ROBERT M	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
10/21/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/553,657	SERBAN, BOGDAN	
	Examiner	Art Unit	
	Robert M. Stone	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/14/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 12, 15, 20, and 23 are objected to because of the following informalities: Minor grammatical error. The addition of "in" is needed between "claimed" and "claim". Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

2. The elements "active surface" and "first and second terminals" lack antecedent basis therefore should not be preceded by the term "said".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 9, 11-12, 16-17, 19-20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Asher* (US Patent No. 5,159,159) in view of *Eckert* (US Patent No. 3,806,912).

As to **claim 9,** *Asher* (Fig. 2) discloses a position detection device (touch sensor detecting position [abstract]), comprising:

a first substrate (insulation film 20);

a first ohmic resistor (33) applied to said first substrate and extending along an active surface of said position detector (fixed resistor 33 deposited on the substrate), said first ohmic resistor connected between first and second terminals of said position detection device (fixed resistor 33 is connected on opposite ends to terminals 10 and 11 which are connected to the touch sensor [col. 8, lines 10-11 and 35-36];

a plurality of electrical conductors (31) connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface (conductive traces 31 are placed at fixed positions along the fixed resistor 33 and extending out across the touchpad [col. 8, lines 37-39]; and

a plurality of conducting elements (30) arranged, within said active surface (on the same substrate 20 within the touchpad), a first end of said conducting elements being connected to a third terminal of said position detection device (conductive traces 30 are connected at opposing ends to terminals 12 and 13 of the touch sensor [col. 8, lines 10-11 and 39-41]); wherein

said conducting elements are configured as an ohmic resistor extending over the active surface of the device (force variable resistor traces 40 are deposited over conductive traces 30 to create ohmic resistors [col. 8, lines 64-66]) and a second end of said conducting elements is connected to a fourth terminal of said position detection device (conductive traces 30 are connected at

opposing ends to terminals 12 and 13 of the touch sensor [col. 8, lines 10-11 and 39-41]).

Asher does not expressly disclose the conducting elements being located so as to alternate between said first electrical conductors.

Eckert (Fig. 1) discloses the conducting elements being located so as to alternate between said first electrical conductors (conducting elements 20 configured as ohmic resistors [col. 2, line 66] are located parallel to conductive traces 14 and 22).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have arranged the traces as taught by *Eckert* in the position detector of *Asher*. The suggestion/motivation would have been to simplify the circuitry [col. 1, lines 59-60] and ease of manufacturing [col. 1, line 20].

As to **claim 16**, *Asher* (Fig. 2) discloses a data input device including a position detection device (touchpad for sensing position data via input from a finger or stylus [abstract]), said position detection device comprising:

a first substrate (insulation film 20);

a first ohmic resistor (33) applied to said first substrate and extending along an active surface of said position detector (fixed resistor 33 deposited on the substrate), said first ohmic resistor connected between first and second terminals of said position detection device (fixed resistor 33 is connected on

opposite ends to terminals 10 and 11 which are connected to the touch sensor [col. 8, lines 10-11 and 35-36];

a plurality of electrical conductors (31) connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface (conductive traces 31 are placed at fixed positions along the fixed resistor 33 and extending out across the touchpad [col. 8, lines 37-39]; and

a plurality of conducting elements (30) arranged, within said active surface (on the same substrate 20 within the touchpad), a first end of said conducting elements being connected to a third terminal of said position detection device (conductive traces 30 are connected at opposing ends to terminals 12 and 13 of the touch sensor [col. 8, lines 10-11 and 39-41]); wherein

said conducting elements are configured as an ohmic resistor extending over the active surface of the device (force variable resistor traces 40 are deposited over conductive traces 30 to create ohmic resistors [col. 8, lines 64-66]) and a second end of said conducting elements is connected to a fourth terminal of said position detection device (conductive traces 30 are connected at opposing ends to terminals 12 and 13 of the touch sensor [col. 8, lines 10-11 and 39-41]).

Asher does not expressly disclose the conducting elements being located so as to alternate between said first electrical conductors.

Eckert (Fig. 1) discloses the conducting elements being located so as to alternate between said first electrical conductors (conducting elements 20 configured as ohmic resistors [col. 2, line 66] are located parallel to conductive traces 14 and 22).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have arranged the traces as taught by *Eckert* in the position detector of *Asher*. The suggestion/motivation would have been to simplify the circuitry [col. 1, lines 59-60] and ease of manufacturing [col. 1, line 20].

As to **claim 17,** *Asher* (Fig. 2) discloses a position detection device (touchpad for sensing touch position [abstract]) having an active surface (substrate 20 of the touchpad on which the touch traces are located) and at least a first and a second terminal (terminals 10-13 connect the touch sensor to the touch pad [col. 8, line 10), said position detector comprising:

a first substrate (insulation film 20);

a first ohmic resistor (33) applied to said first substrate and extending along said active surface (fixed resistor 33 deposited on the substrate), said first ohmic resistor being connected between said first and second terminals (fixed resistor 33 is connected on opposite ends to terminals 10 and 11 which are connected to the touch sensor [col. 8, lines 10-11 and 35-36];

a plurality of electrical conductors (31) connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first

ohmic resistor within the active surface (conductive traces 31 are placed at fixed positions along the fixed resistor 33 and extending out across the touchpad [col. 8, lines 37-39]; and

a plurality of conducting elements (30) arranged, within said active surface (on the same substrate 20 within the touchpad), a first end of said conducting elements being connected to a third terminal of said position detection device (conductive traces 30 are connected at opposing ends to terminals 12 and 13 of the touch sensor [col. 8, lines 10-11 and 39-41]); wherein

said conducting elements are configured as an ohmic resistor extending over the active surface of the device (force variable resistor traces 40 are deposited over conductive traces 30 to create ohmic resistors [col. 8, lines 64-66]) and a second end of said conducting elements is connected to a fourth terminal of said position detection device (conductive traces 30 are connected at opposing ends to terminals 12 and 13 of the touch sensor [col. 8, lines 10-11 and 39-41]).

Asher does not expressly disclose the conducting elements being located so as to alternate between said first electrical conductors.

Eckert (Fig. 1) discloses the conducting elements being located so as to alternate between said first electrical conductors (conducting elements 20 configured as ohmic resistors [col. 2, line 66] are located parallel to conductive traces 14 and 22).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have arranged the traces as taught by *Eckert* in the position detector of *Asher*. The suggestion/motivation would have been to simplify the circuitry [col. 1, lines 59-60] and ease of manufacturing [col. 1, line 20].

As to **claim 24,** *Asher* discloses a data input device including a position detection device (touchpad for sensing position data via input from a finger or stylus [abstract]), said position detection device comprising:

a first substrate (insulation film 20);

a first ohmic resistor (33) applied to said first substrate and extending along said active surface (fixed resistor 33 deposited on the substrate), said first ohmic resistor being connected between said first and second terminals (fixed resistor 33 is connected on opposite ends to terminals 10 and 11 which are connected to the touch sensor [col. 8, lines 10-11 and 35-36];

a plurality of electrical conductors (31) connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface (conductive traces 31 are placed at fixed positions along the fixed resistor 33 and extending out across the touchpad [col. 8, lines 37-39]; and

a plurality of conducting elements (30) arranged, within said active surface (on the same substrate 20 within the touchpad), a first end of said conducting elements being connected to a third terminal of said position detection device

(conductive traces 30 are connected at opposing ends to terminals 12 and 13 of the touch sensor [col. 8, lines 10-11 and 39-41]); wherein

said conducting elements are configured as an ohmic resistor extending over the active surface of the device (force variable resistor traces 40 are deposited over conductive traces 30 to create ohmic resistors [col. 8, lines 64-66]) and a second end of said conducting elements is connected to a fourth terminal of said position detection device (conductive traces 30 are connected at opposing ends to terminals 12 and 13 of the touch sensor [col. 8, lines 10-11 and 39-41]).

Asher does not expressly disclose the conducting elements being located so as to alternate between said first electrical conductors.

Eckert (Fig. 1) discloses the conducting elements being located so as to alternate between said first electrical conductors (conducting elements 20 configured as ohmic resistors [col. 2, line 66] are located parallel to conductive traces 14 and 22).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have arranged the traces as taught by *Eckert* in the position detector of *Asher.* The suggestion/motivation would have been to simplify the circuitry [col. 1, lines 59-60] and ease of manufacturing [col. 1, line 20].

As to **claims 11 and 19,** *Eckert* further discloses wherein the first substrate comprises a printed circuit board (material of substrate 13 is that of a printed circuit board [col. 3, lines 11-14]).

As to **claims 12 and 20,** *Asher* discloses wherein said conducting elements are made of a same material as said electrical conductors (conductive traces 30 and 31 can either be printed inks or thin metallic films [col. 7, lines 61-66]).

5. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Asher* (US Patent No. 5,159,159) in view of *Eckert* (US Patent No. 3,806,912) and *Buchana* (US Patent No. 5,543,589).

Asher in view of *Eckert* does not expressly disclose wherein the first substrate comprises an elastic support sheet.

Buckana discloses wherein the first substrate comprises an elastic support sheet (bottom substrate 10 in Fig. 1E can be replaced with a more flexible substrate such as the same material used flexible membrane touch surface [col. 8, line 66-col. 9, line 2]).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have use a flexible substrate as taught by *Buchana* in the position detector of *Asher* as modified by *Eckert*. The suggestion/motivation would have been to make the entire touchpad flexible to attach to nonplanar surfaces [col. 8, lines 58-65].

6. Claims 13-15 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Asher* (US Patent No. 5,159,159) in view of *Eckert* (US Patent No. 3,806,912) and *Kakuhashi* (US Patent No. 4,517,546).

As to **claims 13 and 21,** *Asher* in view of *Eckert* does not expressly disclose a second substrate and a layer made of resistive or semiconductor material applied to said second substrate, said second substrate being arranged on top of the first substrate such that said layer of resistive or semiconductor material faces said electrical conductors and conducting elements within the active surface.

Kakuhashi (Fig. 6) discloses a second substrate (flexible insulating layer 4B) and a layer made of resistive or semiconductor material applied to said second substrate (main resistive layer 3B superposed to the bottom of insulating layer 4B [col. 5, lines 15-18]), said second substrate being arranged on top of the first substrate (resistive layer 13 is put on top of electrode layer 6x and the bottom resistive layer 11 [col. 5, lines 15-18]) such that said layer of resistive or semiconductor material faces said electrical conductors and conducting elements within the active surface (resistive layer 3B is between electrode layer 6x and protective insulating layer 4B).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have provided the resistive layer as taught by *Kakuhashi* in the position detector of *Asher* as modified by *Eckert*. The

suggestion/motivation would have been as a protective layer to resist wear [col. 4, lines 12-13].

As to **claims 14 and 22**, *Kakuhashi* further discloses wherein said second substrate comprises an elastic support sheet (flexible protective insulating layer 4B [col. 5, lines 16-19] [col. 3, lines 40-43]; also attached to elastic pressure sensitive conductor sheet 12).

As to **claims 15 and 23**, *Kakuhashi* further discloses a pressure-distributing layer applied to said second substrate (when pressed, insulating layer 14 will distribute pressure over the whole touch pad in a manner proportional to it's rigidity. The harder the layer, the more evenly the pressure will be distributed over the touchpad. If the layer is very flexible, the pressure will only be distributed throughout a small area around the point of contact [col. 3, lines 36-46].; alselastic pressure sensitive conductive sheet 12 is located below the top substrate to be used for pressure measurements [col. 5, line 15]).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. *Eventoff* (US Patent No. 4,810,992) teaches a digitizer pad for inputting touch location information with traces located parallel one another and connected to resistor plys.

b. *Salvador* (US Patent No. 4,700,022) teaches a contact point determination device with resistive elements located parallel to conductive traces where the resistive elements have both opposing ends connected to a circuit.

c. *Miessler* (US Patent No. 4,798,919) describes a pressure-sensitive touch tablet based on a single semiconductive resistive sheet facing a conductive sheet.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Stone whose telephone number is (571)270-5310. The examiner can normally be reached on Monday-Friday 9 A.M. - 4:30 P.M. E.S.T. (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh D. Nguyen can be reached on (571)272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert M Stone/
Examiner, Art Unit 2629

/Chanh Nguyen/
Supervisory Patent Examiner, Art Unit 2629